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ABSTRACT

This text is designed to present the major concepts of performance-based instruction for use by teachers, supervisors, and administrators. Chapter 1 discusses student expectations of instruction, including such topics as "Let Me Start Where I Am," "Tell Me What to Expect," and "Give Me a Test, but Don't Threaten Me." Chapter 2 defines effective instruction as a triangle representing objectives, interactive instruction, and validation. It also deals with these principles of performance-based instruction: behavioral analysis, optimum instructional segments, planned pacing, active participation, knowledge of results, and self-correcting feedback. In chapter 3 a model for developing performance-based instruction is presented which consists of fifteen major activities divided into three phases--determine content, plan for instruction, and implement instruction. Chapter 4 discusses evaluation guidelines to determine whether instruction is performance-based. The evaluation includes the occupational content, use of performance objectives, criterion-referenced measurement, methodology, instructional content, and instructional process. A checklist for evaluating instruction is provided. (YLB)

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INTRODUCTION TO PERFORMANCE-BASED INSTRUCTION IN VOCATIONAL EDUCATION

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This text is one of the series on developing performance-based instruction. Other areas covered in the series are:

Occupational Analysis
Structure and Use of Alabama V-TECS Catalogs
Developing Performance Objectives and Criterion-Referenced Measures
Instructional Planning
Selection/Development of Instructional Materials
Validation
Adaptive Instruction
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FOREWORD

Performance-based instruction, perceived as a means of improving vocational education in Alabama, is a process which incorporates the following features into each program or course.

- The course content is based on occupational research which reflects what workers in any given job are actually doing. When instruction is based on such occupational data, students will be trained to do what is actually being done on the jobs.

- The instruction is designed so that the emphasis is on teaching to do rather than just verbalizing or theorizing. This does not mean that job-related knowledges and theories must be left out, but rather that all teaching content is directly related to developing job competency.

- The instruction is student-centered. In traditional approaches, the instruction has often been centered around the teacher and the subject matter. But in performance-based instruction all methods, media and activities are centered around the needs of the student. The primary need of the students in vocational education is to learn a trade or occupation which will prepare them for employment.

- The student performance is measured against attainment of job-relevant objectives, not in comparison with the performance of other students. Prospective employers are not necessarily interested in how students rank according to norm-referenced test results; they are more interested in whether students can do those tasks required of the job.

Performance-based instruction, however, is not an attempt to reinvent the wheel. Of course, many instructional programs already have some of its features, and many instructors are already applying some of the principles. It is not a movement to throw out all that has been done and start from scratch. Rather it is a way to make good programs even better and a logical and systematic way to develop new programs.

This publication was designed to present the major concepts of performance-based instruction for use by teachers, supervisors, and administrators. Teachers can benefit from an understanding of the features and principles of performance-based instruction. Supervisors and administrators, as well as teachers, can benefit from the model for development in Chapter 3 and from the evaluation guidelines in Chapter 4.

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CHAPTER 1

STUDENT EXPECTATIONS

If you were a student, what would you expect of the instruction? What features would you hope to find? You would likely expect comfortable classrooms, adequate facilities, courteous and pleasant teachers and interesting lessons. But also important is how you would like to be treated. The following express some of the ways students expect to be treated by their instructors.

"LET ME START WHERE I AM."

Imagine the frustration when forced to "relearn" something you can already do or to "restudy" something you already know. But such repetition has often been required in conventional instruction. Those students, for example, who could already remove and replace spark plugs were required to go along with those who had never seen spark plugs. Or those who could already type 30 words a minute were forced to practice the basic keyboard exercises along with the beginners. Such repetition is not only a wasteful practice, but also demotivating. This repetition can be prevented through a system of pretesting to determine what students already know and can do and which permits each student to start *beyond* existing skills and knowledges.

How often have you heard the following conversation?

Student: But I already know how to do that.

Teacher: Well, go along with it anyway. The review will be good for you.

"TELL ME WHAT TO EXPECT."

Many of the anxieties developed by students can be attributed to their lack of knowing what is expected of them. They may be told:

"Today, we'll cover_____"
"Our lesson today is_____"
"We're going to talk about_____"
"I'd like for you to learn_____"

But why not state specifically what is expected? How about such statements as these?

"You will be asked to define 10 terms."
"Your must be able to type a one-page manuscript with no more than five mistakes."
"You will be required to mark and saw a rafter to the correct angle."

Without clear knowledge of what is expected, students will not be able to relate the instruction to meaningful purposes. But in a performance-based lesson, one of the essential elements is clearly stated objectives which establish meaningful purposes.

"TELL ME WHAT YOU EXPECT."

Not only is it important to state specifically what is expected, but it is also important to inform students how each objective will be measured. Traditional norm-referenced testing has sometimes been a game between the teacher and the students - teachers sometimes trying to find out what students *don't know* and students often looking for tricky questions and trying to out guess the teacher. How much better when the teacher tells them *how* they will be tested. This eliminates all games and guessing, and clears up some of the anxieties students develop before testing. In performance-based instruction, the main emphasis is on testing by doing. For example, test the students on their knowledge of 10 terms by having them define those terms. Test their ability to mark and saw rafters as they do that task. When students are told what is expected of them in terms of specific objectives, they should aiso be told how each objective will be measured. They should not be left to guess and worry.

"SHOW ME THE BIG PICTURE."

When students are told what is expected and how they are going to be tested or measured, another question naturally arises: "How am I going to get there?" For this reason, a lesson should include the "big picture" in the beginning as an advance organizer. With such a progress map of the big picture, students can relate each activity to the objective in a meaningful way.

"LET ME PRACTICE."

Most students learn best by applying knowledges and skills. For example, they learn to work long division by practicing on long division problems. They learn to read blueprints by doing projects which require them to interpret blueprints. They learn to mark and saw rafters by doing just that. In teacher-centered instruction the students must assume passive roles as listeners, observers or spectators. When the instruction is student-centered, however, the students become active participants and thereby learn by doing.

"GIVE ME SOME VARIETY."

Students often complain that instruction is boring, dull and uninteresting. Often they find no challenge in the same activities repeated hour after hour, day after day. Listen to lectures one after another? View several films? Complete long, uninterrupted reading assignments? All such learning experiences, when used to excess, do become boring, dull and uninteresting. To prevent such monotony and boredom, the instruction should offer an effective, pleasant mixture of learning experiences. This does not imply that it is necessary to purchase expensive and sophisticated media and hardware. By carefully selecting the existing methods and materials most instruction can be planned and conducted thorough a

variety of effective learning experiences.

"GIVE ME SOME OPTIONS."

Students are different in many ways, including the rates at which they learn, the ways in which they learn and their capabilities for learning. Because of these differences, it is neither desirable nor effective to require all students at all times to follow the same path. Not only should there be a variety of the learning experiences, but there should also be alternate paths to accomodate each student's differences. For example, the student who learns best by self-study, should be allowed to pursue that path whenever possible. The student who learns best by audio-visual methods should be given that option whenever possible. All students should be going toward the same objectives, but the instructional system should permit different ways to get there.

"DON'T HOLD ME BACK, AND DON'T RUSH ME."

In traditional instruction, time has long been a constant factor. All segments - lessons, units, blocks, etc - are set up in terms of minutes, hours, days or weeks, and all students are expected to learn what is required during each period. A constant time frame always presents two serious problems: First, the slower student, being forced by time constraints to keep up with the others, is penalized with low grades and sometimes fails. Secondly, the faster student is forced to hold back with the others and is often bored and unchallenged. Ideally, an effective system of instruction will allow time for even the slow students to reach the objectives and permit the faster students to move ahead.

"LET ME KNOW HOW I'M DOING."

Students (as well as everyone else) must know how they are doing. They also have the need to be reinforced or rewarded for doing well. For this reason, an effective instructional system should continually provide knowledge of results. This will be discussed further as one of the underlying principles of performance-based instruction.

"GIVE ME A TEST, BUT DON'T THREATEN ME WITH IT."

Traditional testing is sometimes perceived by students as a threat. First, it is perceived as a threat to self-esteem because the results are compared with others. Secondly, it is viewed as a threat to security because the teacher holds the "big stick" and can penalize or fail the student. But the most desirable testing system is one which (1) is based on achievement of objectives and therefore does not compare one student with the other, and (2) is designed to reinforce students as they grow in skills and knowledges. In other words, tests should be formative (enchancing growth) rather than punitive.

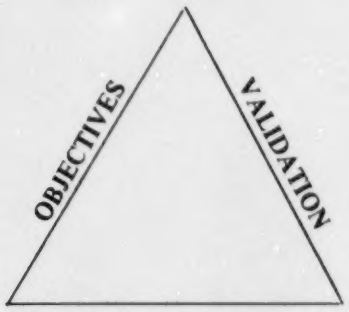
CHAPTER 2

PRINCIPLES OF PERFORMANCE-BASED INSTRUCTION

The previous chapter included student expectations of instruction. Performance-based instruction, when properly designed and conducted, can meet these expectations. But both the designing and conducting of instruction must be based on certain underlying principles. This chapter deals with these principles.

THE TRIANGLE OF EFFECTIVE INSTRUCTION

Effective instruction may be defined as that which does what it was designed to do. This statement may be represented by a traingle.



OBJECTIVES

What the instruction is intended to do must be specifically stated in terms of changes in student behavior. Traditionally, the intent of instruction was often expressed in educational or instructional goals such as the following:

"Develop an appreciation of good literature."
"Be able to make garments."
"Have a working understanding of the metric system."
"Understand Ohm's Law."

Such goals may be useful for communicating the desired outcome of instruction in broad, abstract terms, but they do not describe specific changes in behavior to be achieved by the instruction. Consider one of the above examples,

"Understand Ohm's Law".

How can student understanding of Ohm's Law be measured? The student can be required to do something to demonstrate whether a change in behavior has occurred. For example, a

student whose behavior has been changed by instruction on Ohm's Law should be able to solve problems which require finding voltage, resistance and current. This desired change could then be written into an operational statement or objective such as the following:

> "Given 20 problems involving the Ohm's Law formula, the student will compute unknown current, voltage and resistance without error."

Such an objective then becomes the foundation upon which to build the instruction and the basis for evaluating it.

INTERACTIVE INSTRUCTION

Once the objectives have been specified, instruction can be designed to meet them. To be effective, the instruction must produce interaction; that is, there must be a two-way exchange between instruction and the students. In other words, when the knowledges and skills are explained and demonstrated, the students must be given opportunity to practice them in a manner compatible with their ability. The complete interactive instructional process involves the students in the most effective way possible, provides knowledge of progress, and reinforces. The main point is that interactive instruction involves each student not only in listening, reading, and observing, but also in practicing and performing. In the previous example, the students would "learn" Ohm's Law by applying it.

VALIDATION

Performance-based instruction makes another departure from conventional methods. Traditionally, it has been assumed by some that failure to learn was the fault of the students. Interactive instruction based on specific objectives places the burden of success on the instruction. (This is assuming, of course, that the students are sincerely participating and not deliberately trying to fail.) Such instruction can then be validated to prove its effectiveness. Validation is simply testing the students after the instruction by having them do what the objective specifies. Thus, if all or most of the students, after receiving the instruction on Ohm's Law, solve the problems correctly, the instruction is valid. On the other hand, if a significant number of them fail the problems, the instruction should be improved until the students meet the objectives.

PRINCIPLES OF PERFORMANCE-BASED INSTRUCTION

There are many theories which explain learning. According to the behavioral psychologist, for example, the student learns through stimulus-response. To the gestaltist, one learns by developing mental or cognitive structures or patterns. Others believe students learn by adjusting to developmental tasks imposed by the environment. Some believe that learning is a continuing addition and reclassification of the mental system of organization.All of those theories have merit and have been useful to educators and to teachers. This section, however, does not explain the various theories of how students learn. Instead, it focuses on some principles of performance-based instruction from a practical viewpoint. These underlying principles, when properly applied, will produce the triangle of effective instruction referred to previously. These principles are behavioral analysis, optimum instructional segments, planned pacing, active participation, knowledge of results, and self-correcting feedback.

BEHAVIORAL ANALYSIS

Instruction must be planned and conducted on the basis of what students are expected to achieve. In vocational education, this is determined by analyzing the occupation and specifying the required skills in tasks, task elements, and supporting skills and knowledges. It is from this data that objectives are developed and the content of instruction is planned. The behavioral analysis takes the guess work and bias out of determining what students need to learn - the need to learn is indicated by the tasks required on the job.

OPTIMUM INSTRUCTIONAL SEGMENTS

It is important that instruction be planned and conducted in definite, meaningful steps which progress to achievement of each objective. If steps are too large, students will become frustrated; if too small, they will become bored. The ideal, then, is to plan the optimum steps - those which can be reasonably mastered without either frustration or boredom. They should present meaningful challenges to the students' abilities.

PLANNED PACING

The rate at which students go through a course or sequence of instruction is referred to as pacing. The planning of pacing is an important principle which, if properly applied, can enhance effective instruction. In the past, some teachers have presented the instruction in a lock-step manner so that all students in the class received the same instruction at the same time. This method of pacing, although sometimes necessary and desirable, is not the best for all situations. When applied on a wide scale, it has two significant disadvantages:

- When all students in a class are required to progress at the same rate, the slower and less capable students are likely to become discouraged and frustrated because they cannot keep up with the rest of the class.

- The faster and more capable students are likely to become bored and disinterested because they must wait for the rest of the class.

Effective instruction, therefore, should have a system of planned pacing. Some of the most widely used methods of pacing are as follows:

SELF-PACING. It has long been known that all students do not learn at the same rate. Because of varying ability, background, motivation, attitude and other factors, some will learn faster than others. Ideally, then, the instruction should be designed so that each student can go through the instruction at an individual pace. But self-pacing, like the lock-step method, has some limitations. Some teaching- learning situations require group activity. For example, in a course on human relations the students might learn more effectively by group discussion and interaction than they could by self-paced instruction. When a course is completely self-paced, the students, of course, will finish at different times. This could pose problems if students cannot leave when they complete the course. Other limiting factors include availability of equipment, manpower, facilities, time and funding.

GROUP-PACING. Whenever a class can be divided into groups according to background or capabilities, the use of group-pacing might be considered. With this method each group can progress at its own rate. However, group pacing presents a problem when one teacher has charge of a large class.

PROFICIENCY ADVANCEMENT. This is an acceptable method of acceleration which is often used to advance students who have prior knowledge, previous experience, or who are exceptionally rapid learners. Basically, the student is given an opportunity to demonstrate proficiency on the objectives and is then given instruction only on those objectives which he or she cannot perform.

MULTIPLE TRACKS. This method of planned pacing allows students to be placed in the instructional system according to different levels of ability. In a three-track course, for example, average students could be placed in an average or middle track, the more capable students could be assigned to the fast track while the slower students could be placed in a track designed to accomodate their level.

MODULAR SCHEDULING. In this type of planned pacing the instruction is divided into units of instruction called modules. Each module covers one or more objectives. Students are pretested and counseled to determine their particular needs. Then an individual sequence of modules is prescribed for each student.

INDIVIDUALIZED INSTRUCTION. For many courses, it is possible to design a course so that a student not only studies at an individual rate, but can also find methods, media, difficulty levels and other features adaptable to individual differences and special needs.

ACTIVE PARTICIPATION

How often have students been required to listen to lectures, read chapters from a textbook, and do homework only to find on test day that they studied or concentrated their attention on the wrong information? Conventional instruction as contrasted with performance-based instruction has sometimes been criticized as being a game in which the teacher on the one hand tries to outguess the students on tests and the students on the other hand try to outguess the teacher. Another major criticism of conventional instruction has been the passive role of the student. Expected to assume the role of passive listener, spectator, or reader, the student was expected to "absorb" the information. But it has been consistently proven that students learn best by doing, by becoming involved with the instruction. In fact, until the student has, in some way, applied the information taught, it cannot be assumed that learning has taken place. There are several ways in which students can be involved in active participation.

In the teaching of knowledges, the instruction can be made more effective by questions, problems, and exercises. Such devices, built into the lesson itself, enable students to apply knowledge as it is taught. There is no waiting until later to test retention on a sampling basis. Again, the involvement of each and every student is necessary. When questions are used in the conventional sense they are more or less "thrown out" to the class, either to be answered by volunteers or by those specified by the teacher. But in performance-based instruction every student must participate. Each question, problem, or exercise should support one or more objectives and require answers that are within the scope of the teaching-learning activity. Individual learning requires that each student respond.

When a task or procedure is being taught, the instruction should require each student to practice and perform. They may practice in progressive steps, or practice the entire task, or both. But in any case instruction is incomplete when one or two students perform while the rest watch. It is only by doing a task that students become proficient in it.

KNOWLEDGE OF RESULTS

As the students participate in a course by various exercises, responses, and practice, they need to know how well they are doing. This need is met by a principle referred to as confirmation -- letting the students know by some means whether the response is correct.

When should the student have this information? Immediate knowledge of results or immediate feedback can be given. As an example, students completing a written exercise are given knowledge of results as soon as the exercise has been completed. Another form is delayed knowledge of results. For example, students complete several exercises or procedures before being informed of the correctness or quality of their performance. Still another is the intermediate form in which the students are told periodically how they are doing.

Knowledge of results may be provided in several forms. For example, it may arise naturally out of a task environment where students are required to select the switch position that turns on a specific light. When the light comes on, the students know they have made the right choice. During a later exercise when the students are wiring an electric circuit, confirmation may be supplied by the instructor. The teacher may merely check the work at appropriate intervals and let the students know if they are performing in the correct manner. When discovering an error, the teacher should point out the mistake and provide sufficient individual tutoring to allow the student to continue the exercise. In another situation where students are using a response device to answer quesitons during a discussion or demonstration, knowledge of results may come from the device itself or it may be supplied by the teacher.

Knowledge of results has two major benefits. First, it enhances and sustains motivation. When a student responds correctly and is so informed, the success of the response serves as a reward. Thus the student is motivated to make other correct responses. The second benefit is correction. When confirmation is provided on a timely basis, any incorrect responses will be corrected. Such correction will prevent the learning and practice of wrong behaviors. Remember: It is entirely possible for students to learn wrong behavior.

SELF-CORRECTING FEEDBACK

In a previous section the triangle of effective instruction had one side which represented validation. Validation not only measures the effectiveness of the instruction, but when designed into the instructional system, it provides the standard by which any weaknesses or deficiencies in the instruction can be detected and corrected. Thus the instruction can become self-correcting: improvements can be made whenever deficiencies in students' performance of objectives indicate weaknesses in the instruction.

CHAPTER 3

A MODEL FOR DEVELOPING PERFORMANCE-BASED INSTRUCTION

In order to incorporate the principles of performance-based instruction into a vocational course or program, certain activities mu t be accomplished. This chart, therefore, presents a developmental model.

Phase 1: Determine Content	Phase 2: Plan for Instruction	Phase 3: Implement Instruction
1.1. Determine occupational tasks	2.1. Develop enabling objectives and measures	3.1. Develop lesson plans
1.2. Analyze tasks	2.2. Specify supporting skills and knowledges	3.2. Select/develop student materials
1.3. Develop performance objectives	2.3. Select methods and media	3.3. Conduct main-stream validation
1.4. Develop criterion-referenced measures	2.4. Plan student activities	3.4. Adapt validated instruction to special needs
1.5. Organize instructional sequence		3.5. Set up system of account-ability

The model above contains a summary of those activities necessary for complete development of performance-based instruction in vocational programs. Modification of existing programs will not necessarily require completion of all activities, since some might have already been accomplished.

This model for development of performace-based instruction is one of many which have varying degrees of detail. This model incorporates the major elements common to most models and is tailored toward the curriculum requirements of vocational education. It has the following advantages:

- It is a relatively simple conceptual model which can be helpful in disseminating the techniques of PBI development.

- It outlines the major activities, and becomes a basis for directing and evaluating the key events in program development or revision.

- It provides a frame of reference for each activity.

- It can serve as a guide for planning and scheduling specific inservice training
- It can be used to maintain consistency and continuity in program development or revision.

PHASE 1: DETERMINE CONTENT

The first phase consists of five major activities, the end product of which is an organized instructional sequence.

1.1 DETERMINE OCCUPATIONAL TASKS

Occupational tasks are derived from research conducted within a specific occupation. Such research involves analyzing each occupation to determine its duties and tasks, surveying large number of workers to determine exactly what they are doing, and then deciding on that basis what should be included in the training. Through such research procedures as on-site observation, interviews, questionnaires, checklists and computer analyses, tasks can be based upon actual job requirements.

1.2 ANALYZE TASKS

Once the needs of an occupation have been clearly stated in research-based tasks, each task is then further analyzed. This analysis, conducted through literature study, interviews, observations and other research procedures, is done to determine the major steps and procedures which make up each task as well as the conditions under which it is performed and the equipment it requires.

1.3 DEVELOP PERFORMANCE OBJECTIVES

Each analyzed task is next translated into a performance objective which specifies exactly what the student will do as a result of the instruction, the conditions under which it will be done, and the standard of proficiency to be achieved.

1.4 DEVELOP CRITERION-REFERENCED MEASURES

For each performance objective, a measure is written which requires the student to perform what is specified in each objective. This criterion-referenced measure enables the teacher to evaluate the student's performance according to the objective's standard. It also provides the instrument for validation of the instruction.

1.5 ORGANIZE INSTRUCTIONAL SEQUENCE

Since an occupational analysis includes a broad area of duties and tasks, each instructional program must be tailored to meet specific training requirements set up by instructional, regional or local demand. The specific instructional requirements, then, can be selected from the tasks and objectives and arranged into the desired teaching sequence.

PHASE 2: PLAN FOR INSTRUCTION

When the content has been determined, the next phase is to plan for the instruction. Effective performance-based instruction is not something that just happens; it must be carefully and systematically planned. Phase 2, therefore, contains four major activities which may be accomplished independently or simultaneously.

2.1 DEVELOP ENABLING OBJECTIVES AND MEASURES

For each performance objective included in the instructional sequence there may be short-term, intermediate objectives which prescribe what students will do as they progress toward mastery of each task. Those objectives are called enabling objectives because they prescribe the progressive achievements of one who is learning the task. They become, in a sense, the steps in a learning ladder. Because they prescribe both skills and knowledges, enabling objectives can become a sequenced structure for each segment of instruction. For each enabling objective, a measure is designed to assess its attainment. Enabling objectives provide the basis for optimum instructional segments.

2.2 SPECIFY SUPPORTING SKILLS AND KNOWLEDGES

While the enabling objectives make up the structural framework for the teaching plans, the skills and knowledges make up the specific informational content. They include the procedural steps which must be explained and demonstrated and the essential knowledges which must be taught.

2.3 SELECT METHODS AND MEDIA

For each enabling objective, a method is selected for communicating the skills and knowledges to the students and for managing the learning activities. The term *method* is used to convey how teachers can manage and facilitate the communication and activities. For each method the media - such as texts, student materials, audio visuals - are then selected.

2.4 PLAN STUDENT ACTIVITIES

As the knowledges and skills are communicated by the methods and media, the students should participate through meaningful experiences or activities. In this way they can learn by doing. The planning, therefore, must include the essential student activities such as routine activities made in response to instruction, practice for developing skills and reinforcing knowledges, performance of enabling objectives, and actual performance of the criterion-referenced measures. Student activities insure active participation.

PHASE 3: IMPLEMENT INSTRUCTION

After the content has been determined and the planning for instruction has been completed, the third phase is putting the plan into operation. This involves five major activities as follows:

3.1 DEVELOP LESSON PLANS

Following the instructional planning worksheets, each teacher can develop specific

plans for the lessons. Such lesson plans may include teacher-presented lessons, or other activities in which students can work and study in groups or in individual assignments.

3.2 SELECT/DEVELOP STUDENT MATERIALS

The necessary student materials such as texts, manuals, charts, and other items are obtained. Then the necessary teacher-made items - such as assignment sheets, information sheets, worksheets, study guides, exercises and project directions - are prepared for each lesson.

3.3 CONDUCT MAINSTREAM VALIDATION

When student materials have been made ready, the instruction can then be tried out or validated. This involves teaching the program as planned and evaluating achievement of both the enabling and performance objectives. Validation will reveal any weakness in the instruction so that necessary revisions can be made.

3.4 ADAPT VALIDATED INSTRUCTION TO SPECIAL NEEDS

The validated instruction can then be adapted to meet the special needs of the students. This involves tailoring the instruction to meet the needs of slow, fast, disadvantaged, retarded and handicapped, and other special needs students. Adaptation to special needs is undertaken at this late stage in the process because the primary content should first be validated. Then all adaptive measures can be based on valid mainstream instructional content.

3.5 SET UP SYSTEM OF ACCOUNTABILITY

The last activity involves setting up a record system of accountability. This includes the record keeping of each student's achievements, the certificate which each student receives at the end of the program, and a method for evaluation of the instruction. The records and certificate should reflect what the student has actually achieved instead of the adjective grades which have been assigned. Evaluation should indicate whether the instruction is effective in terms of student achievement.

The PBI model begins with a determination of the occupational tasks and ends with the evaluation of the training. Its activities can be applied to the development of new programs or to the updating or revision of existing programs. Appropriate activities can be applied at any point in a program. For example, if a program is found to already have valid content, updating can be done in one of the other phases as required.

CHAPTER 4

DETERMINING WHETHER INSTRUCTION IS PERFORMANCE-BASED

Before the process of developing performance-based instruction is started for an existing course, there should be an evaluation to determine whether all or any of the instruction is performance-based. This evaluation should include the occupational content, the use of performance objectives, criterion-referenced measurement, the methodology, the instructional content and the instructional process.

OCCUPATIONAL CONTENT

Since the purpose of vocational education is to prepare for employment, the course or program should be based directly on what the employment requires. First of all, jobs require proficiency in certain tasks which are done by the worker. This means that you should have a list of those tasks required on the job. Without such a list, the course is likely to teach about rather than how to do. Secondly, the stated tasks should reflect what is currently being done in the field. This means that the tasks should be research-based: derived from interviews with workers, supervisors, employers and others involved in the occupation.

An excellent source of occupational data is the V-TECS catalogs now available for many occupations. Those catalogs are based on extensive research and computer analysis and therefore reflect those tasks currently performed in each occupation.

PERFORMANCE OBJECTIVES

If the course is based on current occupational tasks, then each task should be translated into measurable, observable objectives. Briefly defined, a performance objective specifies exactly what students are expected to do, the conditions under which it will be done and the standard by which it will be evaluated. Such objectives are the cornerstones of performance-based instruction. Because they spell out in measurable terms the desired proficiencies, they provide direction for both the instruction and the evaluation. A training manual for developing such objectives is available upon request. The V-TECS catalogs referenced above contain performance objectives.

CRITERION-REFERENCED MEASUREMENT

Traditionally, students have been given various types of written tests to measure their learning. Performance-based instruction does not prohibit testing to check understanding and retention of knowledges and theories. But it does require that the actual measurement for task proficiency be the actual doing of the task. In other words, criterion-referenced measurement is having each student do what is specified in the performance objective. Anything less will not accurately measure student proficiency.

METHODOLOGY

Generally speaking, methodology refers to how the instruction is managed and controlled. There are numerous effective methods such as demonstration, performance, discussions, lab practice, and independent study, but the primary concern in this evaluation should deal with how any given method supports performance objectives. Basically, this means that methods should not only be concerned with teaching about; they should be largely concerned with both the how to do it and subsequent practice and performance in doing.

INSTRUCTIONAL CONTENT

In performance-based instruction, there are two requirements for the instructional content: relevancy and currency. Relevancy refers to how the information supports performance objectives. Of course, instruction must include the knowledges and theories that support the performance objectives. Any informational content which does not support the objectives detracts from the effectiveness of the instruction. Currency refers to whether the information is correct and up-to-date. Technologies change so rapidly that what was taught a year ago might now be obsolete.

INSTRUCTIONAL PROCESS

In evaluation of the instructional process consideration should be given to whether lessons are based on performance objectives. Then evaluate the instruction to determine whether these principles of performance-based instruction are being applied: active student participation, optimum instructional segments, and knowledge of results.

CHECKLIST FOR EVALUATING INSTRUCTION

OCCUPATIONAL CONTENT

1. Does the course outline or other control document contain specific statements of the occupational tasks?

2. Has the currency of the tasks been verified through research procedures?

PERFORMANCE OBJECTIVES

1. Do performance objectives exist for all tasks?

2. Does each objective:

   a. Clearly specify behavior?
   b. State the necessary conditions?
   c. Contain a standard of performance?

3. Are the criterion-referenced measures being used as the primary system of measurement?

4. Are interim progress checks provided prior to administration of evaluation measurement?

5. Is each student rated against a measurable criterion?

METHODOLOGY

1. Does each method directly support the respective objective?

2. Is the main emphasis on teaching to do rather than teaching about?

INSTRUCTIONAL CONTENT

1. Is the information related to the performance objective?

2. Are the printed materials directly related to objectives?

3. Has the content been reviewed for currency?

INSTRUCTIONAL PROCESS

1. Were lesson plans followed?

2. Did the lesson plans provide guidance for:

   a. Class and student preparation?
   b. Progressive development of the lesson?
   c. Student activities?
   d. Application?
   e. Evaluation?

3. Did the lessons presented provide:

   a. Preview of what was expected?
   b. Optimum instructional segments?
   c. Meaningful student participation?
   d. Timely knowledge of results?